

## NOTES AND NEWS

REEVALUATION of *Pyrus hoffmannii* (ROSACEAE) FROM THE PLEISTOCENE CARPINTERIA ASPHALT DEPOSIT, CALIFORNIA.—Chaney and Mason (Publ. Carnegie Inst. Wash. 415:45–79. 1933) proposed the name *Pyrus hoffmannii* for a flower, an immature fruit, and a leaf from the Late Pleistocene flora of the asphalt deposit near Carpinteria, Santa Barbara Co., CA. Recent radiocarbon dates indicate an age of greater than 50,000 years for this flora (Miller and Peck, Trans. San Diego Soc. Nat. Hist. 19:85–106. 1979), but some fossils from the deposit may be younger. Chaney and Mason (op. cit.) believed these specimens to represent an extinct species related to *Pyrus rivularis* Dougl. However, reevaluation by Dr. D. I. Axelrod of the type specimens (Santa Barbara Museum of Natural History Paleontology Collection Specimens 277–279) reveals that they are *Amelanchier pallida* Greene (= *A. alnifolia* of authors).

The secondary and tertiary venation of the type leaf is not shown accurately in the original sketch (Chaney and Mason, op. cit., Fig. 13). Microscopic examination of the leaf (Fig. 1) shows venation inseparable from leaves of *A. pallida*. The thinly scattered filamentous curled hairs on the pedicels of the type fruit and flower agree with those of *A. pallida*, as does the basic floral morphology. Therefore, *P. hoffmannii* is a later synonym of *A. pallida*. *A. pallida* still occurs in the region (Smith, A fl. Santa Barbara Reg. Calif. 1976), is common and widespread in California, and fits well into previous



2 mm

FIG. 1. Venation of *Amelanchier pallida* Greene (= *Pyrus hoffmannii* Chaney and Mason), Santa Barbara Museum of Natural History Paleontology Collection Specimen 279.

paleoecological interpretations of the fossil biota of the Carpinteria asphalt deposit (Chaney and Mason, op. cit.; Wilson, Publ. Carnegie Inst. Wash. 440:59-76. 1933; DeMay, Publ. Carnegie Inst. Wash. 530:61-76. 1941). With the identity of *P. hoffmannii* resolved, all members of the Carpinteria fossil flora (and all Late Pleistocene floras in California) are believed to represent living taxa.

D. I. Axelrod and C. F. Smith assisted in the preparation of this note.—SCOTT E. MILLER, Santa Barbara Museum of Natural History, Santa Barbara, CA 93105. (Accepted 28 Apr 1979.)

**CHROMOSOME NUMBER FOR *Calochortus tiburonensis* (LILIACEAE).**—*Calochortus tiburonensis* Hill from the type locality was found to have ten pairs of chromosomes in PMCs at metaphase 1. The aceto-carmine squash technique was used. Drawings of the chromosomes have been attached to *Ornduff 70816* (JEPS) collected in 1973 on Ring Mt., Tiburon Peninsula, Marin Co., CA. No further voucher was collected because of the distinctiveness and rarity of this species, which is known only from this location. *Calochortus luteus* Dougl. ex Lindl. and *C. umbellatus* Wood, which are also found on Tiburon Peninsula (Howell, Man. fl. pls. ferns Marin Co., Calif. 1970), are not sympatric with *C. tiburonensis*. The species is listed as both very rare and endangered (Powell, ed., Inventory rare endang. vasc. pls., Calif. Native Pl. Soc. Special Publ. 1. 1974) and has been proposed for designation as "Endangered" under the federal Endangered Species Act of 1973 (Fed. Reg. 41:24552. 1976). It was listed as "Endangered" by the California State Fish and Game Commission on 6 Oct 1978.

In his description of *C. tiburonensis*, Hill (Madroño 22:100-104. 1973) discussed the sectional relationships of this species using Ownbey's taxonomy of the genus (Ann. Missouri Bot. Gard. 27:371-561. 1940). Ownbey divided the genus into three sections primarily on bulbcoat and capsule morphology. Differences in chromosome number mostly parallel these delimitations. The fibrous-reticulate bulbcoat and nonwinged capsule of *C. tiburonensis* would place it in sect. *Cyclobothra*. Hill questioned this association with reference to other traits, most notably gland morphology, which more closely resembles sect. *Calochortus*. The chromosome number  $n = 10$  also aligns the species with sect. *Calochortus*, where  $x = 10$ . On the basis of four species, sect. *Cyclobothra* has  $x = 9$  (Beal and Ownbey, Bot. Gaz. 104:553-562. 1943; Cave, Univ. Calif. Publ. Bot. 57:1-58. 1970). Counts should be made for the remaining 11 species in sect. *Cyclobothra* before assessing the sectional status of *C. tiburonensis* on the basis of chromosome number.

I thank Dr. Robert Ornduff and Dr. Marion S. Cave for their technical assistance and Dr. James W. Bartolome for his editorial comments.—MITCHEL P. MCCLARAN, Department of Forestry and Conservation, University of California, Berkeley 94720. (Accepted 1 July 1979.)

***Malacothrix clevelandii* COMPLEX (COMPOSITAE—LACTUCEAE) REVISITED.**—In 1962 *Malacothrix clevelandii* A. Gray was divided into four species by Davis and Raven (Madroño 16:258-266). One of the proposed new species was *M. similis*, a tetraploid ( $2n = 28$ ) whose pollen is significantly larger than that of the diploid *M. clevelandii* ( $p < 0.01$ , Student's t-test). A second new species, *M. stebbinsii*, also was found to have larger pollen than *M. clevelandii* and it was conjectured that the chromosome count of  $2n = 28$  reported by Stebbins et al. (Univ. Calif. Publ. Bot. 26:401-430. 1953) for "*M. clevelandii*" from Tucson, AZ (for which no voucher could be found) could be referred to *M. stebbinsii*. On a collecting trip through Arizona in 1973, I found a population of *M. stebbinsii* (Pima Co., 0.8 km se. of hwy 386 along a gravel road 3.2 km s. of the jct of hways 86 and 386, 14 Apr 1973, Davis 348) and chromosome counts of  $2n = 28$  were obtained. Plants of *M. stebbinsii* have been grown from seed in a controlled environment under the same conditions as *M. clevelandii* (from populations